

New *Paraleuctra* from the Rocky Mountains (Plecoptera: Leuctridae)¹

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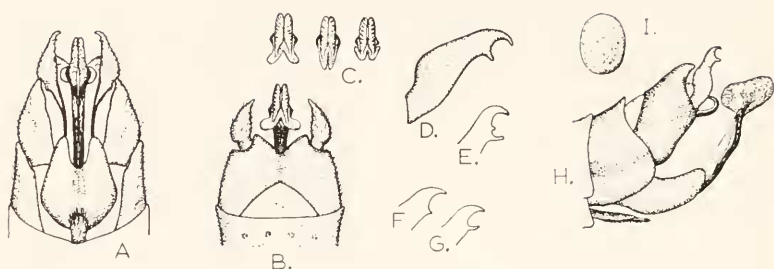
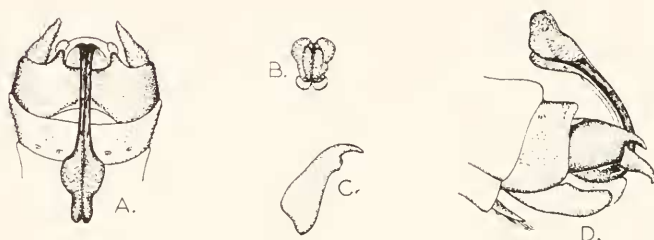
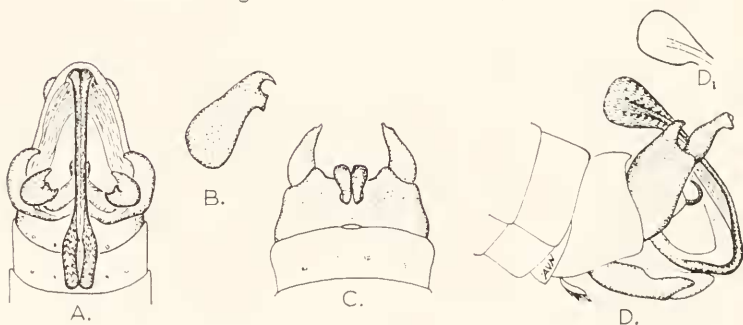
Two new species of *Paraleuctra* were discovered during the course of intensive investigations of Rocky Mountain stoneflies. Extensive collecting in all of the Rocky Mountain states has been carried out as a part of an overall program to obtain information concerning the taxonomy and ecology of the Rocky Mountain stonefly fauna. The new species herein described are found in Montana, Idaho, and Utah. They are closely related to *Paraleuctra occidentalis*, which is found uncommonly in all of the Rocky Mountain states and all along the Pacific area from California to Alaska. All three species have been found in the same streams and no intermediate forms have been encountered. Ecological separation of the 3 species has been noted in Big Cottonwood Canyon, Salt Lake Co., Utah. *P. occidentalis* occurred throughout the length of Big Cottonwood Creek while *P. jewetti* was restricted to smaller tributary streams fed predominantly by springs. *P. rickeri* was found almost exclusively in small seeps and springs.

The three species are similar in general morphological features. The females are almost indistinguishable and cannot be separated with confidence at the present time. All of the females of *Paraleuctra* except *P. purcellana* are difficult to separate. The specific diagnostic characters are found in the male genitalia and associated structures (Fig. 4).

Paraleuctra jewetti new species (Fig. 2)

Male: length of titillator 0.9 mm; apex of titillator distinctly lobed and folded (Figs. 2A, 2B, 2D); upper lobe of apex of

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Fig. 1. *Paraleuctra occidentalis*Fig. 2. *Paraleuctra jewetti*Fig. 3. *Paraleuctra rickerti*FIGS. 1-3. New species of *Paraleuctra*.

titillator much larger than lower lobe (Fig. 2D); posterior margin of ninth tergite with two posteriorly projecting lobes (Fig. 2A), each one-sixth the width of the tergite at base. Stem of titillator (Fig. 4) heavy and massive, not undulated but

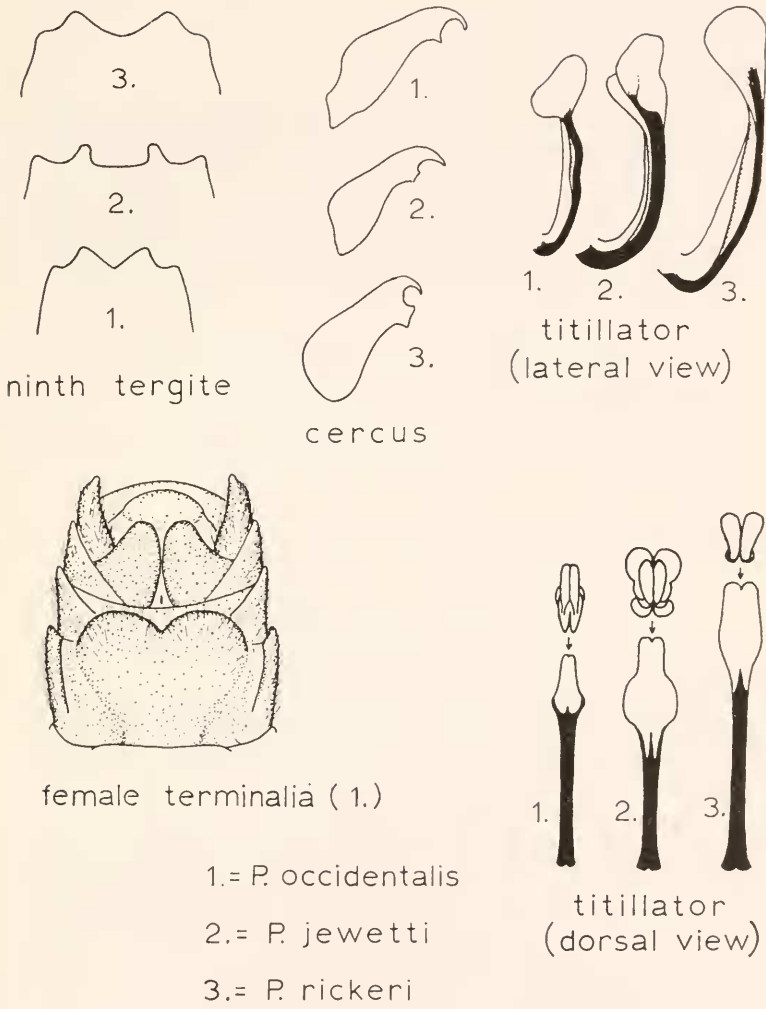


Fig. 4. Analysis of Characteristics

FIG. 4.

smoothly arched. Cercus fairly consistent in having a terminal hook and a small blunt projection subterminal in position (Fig. 2C).

Type.—Holotype male, UTAH, Salt Lake Co., Big Cottonwood Creek $\frac{1}{2}$ mile below jct. Mineral Fork, A. V. Nebeker, June 9, 1965. Additional paratypes as follows: Big Cottonwood Creek: at Power plant, May 26, 1 male; at Mineral Fork, June 4, 1 male; May 26, 3 males, 4 females; at Water Treatment Plant, May 28, 1 male, 1 female; Montana, Glacier Nat'l. Park, Swift Current Creek at Swift Current Campground, July 10, 1964, A. V. Nebeker, 1 male.

This form is readily separated from *P. occidentalis* by the massive titillator with the folded and lobed apex. The small projections of the ninth tergite also separate the two forms. The two species are about the same size overall. The cercus rarely has the sharply pointed second subapical projection.

Paraleuctra rickeri new species (Fig. 3)

Male: length of titillator 1.2 mm; apex of titillator smoothly rounded, not infolded or lobed (Figs. 3A, 3D); upper and lower lobes of apex of titillator of nearly equal size. Posterior margin of ninth tergite with two posteriorly projecting lobes (Fig. 3C) each $\frac{1}{2}$ to $\frac{1}{3}$ width of tergite at base, triangular in shape. Stem of titillator long, slender and smoothly arched but bent slightly medially. Cercus fairly consistent with a heavy blunt subterminal projection, angular in side view.

Type.—Holotype male, Utah, Salt Lake Co., Big Cottonwood Cr. at The Spruces, A. R. Gaufin, June 18, 1954. Additional paratypes as follows: Montana, Lake Co., Yellow Bay Cr., at Yellow Bay, Hwy. 35, March 28, 1965, A. V. Nebeker, 1 male; Utah, Salt Lake Co., Big Cottonwood Cr. at The Spruces, A. R. Gaufin, June 18, 1954, 2 males, 3 females; Idaho, Latah Co., 5 mi. N. E. Laird Park, April 19, 1963, W. E. Barr, 1 male; Montana, Missoula Co., Rattlesnake Cr., 12 mi. N. E. Missoula, April 25, 1965, D. M. Lehmkuhl, 1 male; Montana, Glacier Nat'l. Park, seep 1 mile below Iceberg Lake, July 27, 1965, A. V. Nebeker and A. R. Gaufin, 1 male; Montana, Gallatin Co., Hell Roaring Cr., May 20, 1951, W. Alvord, 1

male, 1 female; Montana, Gallatin Co., Hyalite Cr., May 4, 1951, R. Hays, 1 male.

This species is about one-fourth larger than *P. occidentalis* with a much longer titillator. The cercus is different with the massive square-looking lower process.

Forty-five collections of *P. occidentalis* from Utah, Idaho, Colorado, Montana, Oregon, Washington, and California were carefully compared with the new species. No variations of *P. occidentalis* except the cerci were observed. The cercal variations are illustrated in Figs. 1D-1G. Fig. 1D is from Montana; 1E is from Oregon and Washington; 1F is from Washington; and 1G is also from Washington. California and some Oregon specimens show a distinction in that they have a third prong on the cercus but this is of little value. The egg is illustrated in Fig. 1I. The female is illustrated in Fig. 4.

Nomenclature Notice

Notice is given of the possible use of plenary powers by the Intern. Comm. Zool. Nomencl. in connection with the following, listed by case number (see *Bull. zool. Nomencl.* 23, pt. 2/3).

1642. Suppression of **Bryaxis schneideri** Kugelann, 1794; Type-species for *Bryaxis* Kugelann, 1794 (Coleoptera).

1732. Neotypes for **Anthocoris nigrellus** Zetterstedt, 1838; **Anthocoris nigricornis** Zetterstedt, 1838; **Lygaeus pygmaeus** Fallen, 1807 (Hemiptera).

1741. Type-species for **Phlaeothrips** Haliday, 1836 (Thysanoptera).

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